DOCUMENT RESUME

ED 045 691 TM 000 144

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TITLE	A Study of Our Nation's Students: Variations in Achievement and Motivation by Family Background and Geographic Location at the Individual and School Level.
INSTITUTION	Office of Program Planning and Evaluation (DHEW/OE), Washington, D.C. Division of Elementary and Secondary Programs.
REPORT NO	TP-9
PUB DATE	12 Feb 70
NOTE	28p.
EDRS PRICE	EDRS Price MF-$0.25 HC-$1.50
DESCRIPTORS	*Academic Achievement, *Educational Attitudes, Educational Objectives, Educational Opportunities, Ethnic Grouping, *Family Background, Geographic Location, Rural Urban Differences, School Environment, Socioeconomic Background, Student Characteristics, *Student Motivation, *Student School Relationship, Study Habits
IDENTIFIERS	Coleman Report, *Equality of Educational Opportunity Survey

ABSTRACT

This report, one of a series which will become chapters of a larger study entitled "A Study of Our Nation's Students" (see TM 000 145 and TM 000 182), concerns itself with total variation between students (T), within school variation (W), and among school variability (A) in the dependent variables (Expectations for Excellence, Attitude Towards Life, Educational Plans and Desires, Study Habits, and Achievement) which are accounted for by Family Social Background and Process measures as one moves from one geographic locale to another. It was found that the relative roles of Family Social Background (SB) and Process (PRCS) variables can be considered roughly similar since the unique role of PRCS greatly exceeds that of SB for both Expectations and Attitude Towards Life in all geographic regions. This same assertion holds to a lesser extent for Study Habits since there are metropolitan-nonmetropolitan differences at the third and twelfth grades. For Educational Plans and Achievement, however, the relative roles of SB and PRCS are not even roughly similar: the role of SB at both the T and A levels for these variables is usually most pronounced where social and economic stratification on the basis of race or ethnicity is greatest (viz., the South and to some extent the metropolitan North). It is suggested that the aggregate effect of allocating students with similar SB into the same schools is to make it more difficult for the schools to overcome the cumulative effect of SB. (DG)

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

February 12, 1970

OFFICE OF PROGRAM PLANNING AND EVALUATION

MEMORANDUM

TO : Technical Paper Recipients

FROM: George W. Mayeske
Office of Program Planning and Evaluation

SUBJ: Technical Paper Number 9: Variations in Achievement and Motivation by Family Background and Geographic Location at the Individual and School Level

This paper presents the results of analyses that compare differences among schools with the differences among students within schools as to the relative roles that family background factors play in the development of student achievement and motivation. These analyses compare differences attributable to geographic areas of residence (non-metropolitan North, metropolitan North, non-metropolitan South and metropolitan South). The data came from the Educational Opportunities Survey. Although not in final form this paper will in time become Chapter 9.0 of a larger report focusing on the student and different aspects of his background. This paper is circulated now in order to solicit reactions to its mode of presentation. A summary is given on the last several pages.

ED045691

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OFFICE OF PROGRAM PLANNING AND EVALUATION

Division of Elementary and Secondary Programs

Variations in Achievement and Motivation by Family Background and Geographic Location at the Individual and School Level

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Technical Paper

Number 9

February 12, 1970

TM 000 044

OFFICE OF EDUCATION/U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

9.0 Variations in Achievement and Motivation by Family Background and Geographic Location at the Individual and School Level

In a previous chapter (Chapter 6) the concepts of differences among schools and among students within schools were developed and analyses utilizing these concepts were presented from a national viewpoint. This chapter examines these same concepts for different geographic locations. Specifically, the questions for which answers are sought in this chapter are: "How does the percent of variation in each dependent variable accounted for by family background measures change at the individual (T for Total and W for Within) and school (A for Among school) levels in moving from one geographic locale* to another?" and "How do the relative roles of family Social Background (SB) and Process (PRCS) measures change for these different levels (T, A and W) from one geographic locale to another?" Answers to these questions are of particular interest for they may yield insights into the manner in which the aggregation of students into schools affects the influences school have on their students.

The operations performed in conducting T, A and W analyses were decribed in detail in Chapters 2 and 6. The hypothesis testing framework used in the two preceding chapters and described in detail in Chapter 2 was also used in this chapter. The numbers of students and schools in these analyses are given in Chapters 7 and 8, respectively. The percent of variation in each dependent variable that is associated with the schools students attend is given in the preceding chapter in

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*The States included in each geographic group are given in Chapters 2 and 7.

the Figures that contain the SO values.* For the most part these figures show that these percentage values are higher in the South than in the North for all five of the dependent variables (Expectations, Attitude Towards Life, Educational Plans, Study Habits and Achievement) at almost all of the grade levels. These values tend also to be higher in the non-metropolitan (non-met) than in the metropolitan (met) areas for the four motivational and attitudinal indices but not for Achievement. For Achievement the values are in ascending order of magnitude:non-met North; met North; met South and non-met South.

To get an idea of the extent to which students are aggregated into schools on the basis of their Social Background (viz., their Socio-Economic Status, Family Structure and Racial-Ethnic Group Membership) the percentage values for these different variables (i.e. the squared correlation of school SES with individual SES) were examined within each geographic group. For Socio-Economic Status (SES) these values ranged as follows at the ninth grade: non-met North, 19; met North 22; non-met South 26 and; met South, 27. For all the other grade levels too, the South tended to have larger values than the North. For all these groups, the values at the lower

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* This is due to the variable which is the school mean counterpart of each dependent variable being included in the SO set. Since this one (SO) variable is maximally correlated with the dependent variable, none of the other variables in the SO set make a contribution. For example, when Achievement is the dependent variable school Achievement is maximally related to it and consequently none of the other SO variables make a contribution.

grade levels (1 and 3) tended to be about 8 to 10 points larger than at the higher grade levels (9 and 12).

The same trends as were observed for SES were also found for Family Structure and Stability (FSS) with the South having larger values (17 for met and 12 for non-met) than the North (10 for met and 8 for non-met) at the ninth grade. However, the percentages are much smaller for FSS than for SES. At the other grade levels too, the South had larger values than the North and all subgroups had larger values (by about 3 to 5 percentage points) at the lower (1 and 3) than at the higher (9 and 12) grade levels.

For Racial-Ethnic Group Mmebership (RETH) the percentage values are much larger in the South than in the North. In the North the non-met and met figures are 38 and 48 respectively whereas in the South the comparable non-met and met figures are 66 and 75 at the ninth grade. These figures, which are a direct indication of racial imbalance in the public schools, were found to be quite similar for all the grade levels within each of the geographic groups. That is, the South always had larger values than the North and the non-met (both North and South) always had smaller values than the met areas. In the North the characteristic decrease in these values was observed at the higher grade levels but not in the South. In the South these values tended to dip at the sixth grade to rise again at the ninth and twelfth.

In summary, there is a pronounced tendency for students of similar Social Background (SB) to attend school with one another. Of the three SB measures of SES, FSS and RETH, this aggregation is greatest for RETH

with a more moderate value for SES and a still smaller value for FSS. For all three SB measures, and therefore, for SB in general, the aggregation of students into schools on the basis of their SB is much greater in the South than in the North. The decrease in these values observed at the higher grade levels for SES and FSS in both the North and South and for RETH in the North may reflect the "feeder school" effect of students of more dissimilar background feeding into the same schools at the junior and senior high levels. That this decrease does not occur in the South (where racial segregation is greatest) for RETH further reinforces this feeder school interpretation.

The remainder of this chapter is organized in sections around each of the five dependent variables. Within each section comparisons are made for each type of analysis (T, A and W) of the differences in the percent of variation (squared multiple correlation) accounted for by the combined Family Social Background and Process measures - a set of seven variables in all. The composition of these sets at the individual and school level was described in Chapter 6. Unitized commonality analyses for the three types of analyses at the ninth grade are compared and discussed for the different groups. The commonality analyses are unitized (i.e. the coefficients sum to 100) so that the groups are more comparable because the proportions of variance accounted for are very different for T, A and W as well as for the different groups. In closing each section, the comparability of results at the ninth grade with the other grade levels are discussed. Grade level trends are inferred with caution since the indices are better measured at the higher than at the lower grade levels.

9.1 Variations in Expectations for Excellence by Family Background and Geographic Location for T, A and W Analyses

Figure 9.1 presents a comparison of the percent of variation in Expectations for Excellence accounted for by the SB and PRCS measures in the different groups. The figures in this table show that the A values exceed the T and W values by about: 1 3/4 to 6 times in the non-met North; 2 to 3 times in the met North; 2 to 5 times in the non-met South and; 2 to 6 times in the met South. These preceding statements must be qualified to read: "except at the twelfth grade". For at the twelfth grade very different results emerge. In the North, at the twelfth grade the A value is more nearly equal to the T and W values, if not somewhat less (non-met). In the South the A values are much smaller at the twelfth grade but are still somewhat larger than the T and A values. Evidently, at the twelfth grade, the influence of the dropouts and perhaps changes in the Expectations of those students who remain in school as well, are reflected at both the individual (T and W) and aggregate (A) level.

Table 9.1 compares the results of the unitized commonality analyses for these different groups and levels of analysis. These results show that the relative roles of SB and PRCS are fairly similar for the different groups and levels with the unique value for PRCS greatly exceeding that for SB. However, the magnitude of the percentages do change somewhat, most noticeably at the school level (A) where the unique value for PRCS drops and the common portion increases in magnitude, especially in the North and met South. These same relative roles were observed at the other grade levels (see Chapter 20) except that there was a tendency for the percents

Figure 9.1. - Percent of Variation in Expectations for Excellence, Accounted for by Family Social Background and Process Measures for Total (T), Among (A), and Within (W) Analyses by Geographic Location

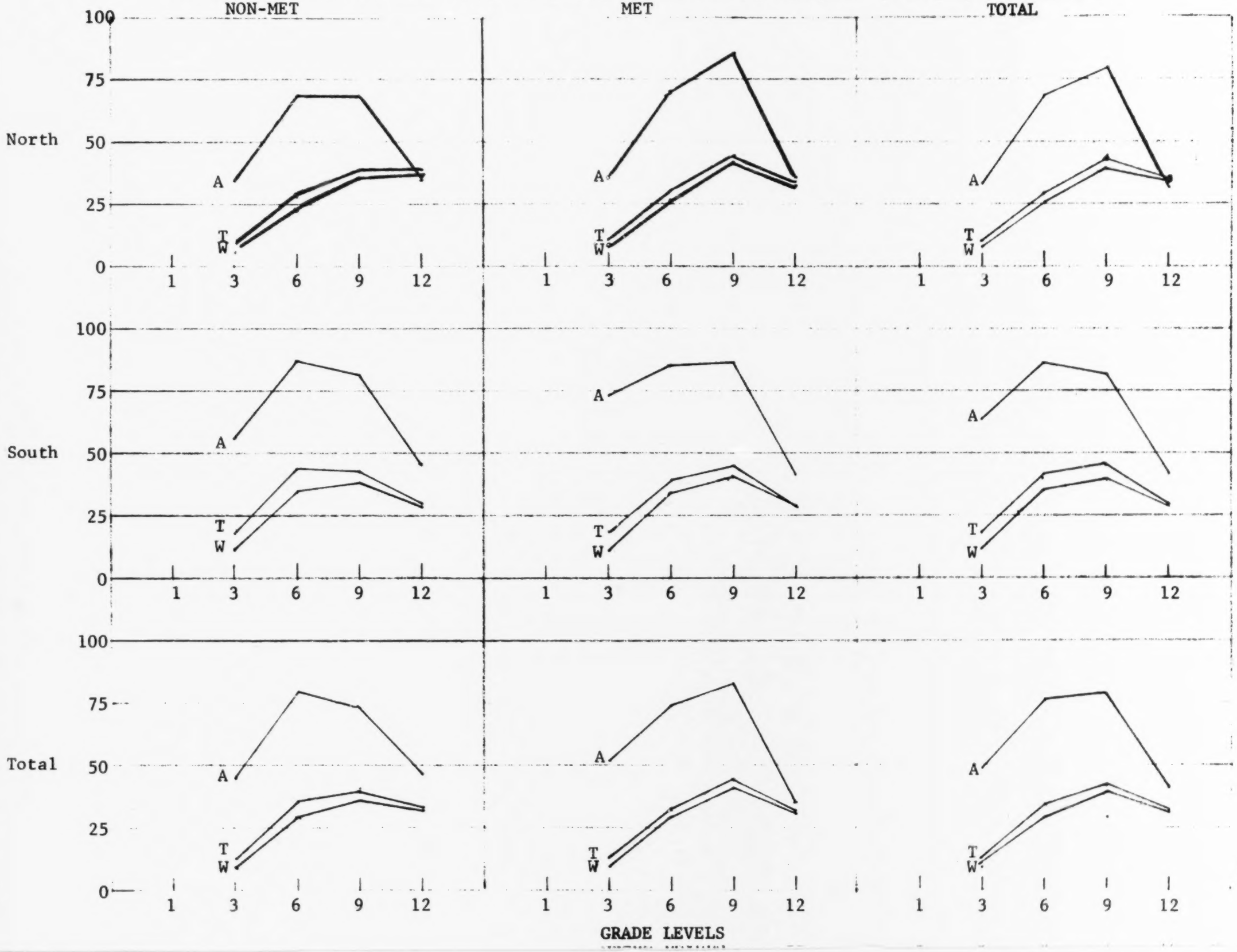

Table 9.1. - Unitized Commonality Analyses of Family Social Background and Process Measures With Expectations for Excellence for Total (T), Among (A) and Within (W) Differences at the Ninth Grade by Geographic Location

Region	Type of Analysis	NON-MET SB	NON-MET PRCS	NON-MET C	MET SB	MET PRCS	MET C	TOTAL SB	TOTAL PRCS	TOTAL C
	T	3	53	44	2	49	49	2	51	47
NORTH	A	3	24	73	0	23	77	1	25	74
	W	2	57	41	1	54	45	2	55	43
	T	2	54	44	2	52	46	2	53	45
SOUTH	A	2	42	56	0	24	76	1	35	64
	W	2	58	40	2	59	39	2	59	39
	T	3	54	43	2	51	47	2	52	46
TOTAL	A	4	42	54	1	26	73	2	33	65
	W	2	58	48	2	56	42	3	56	41

SB - Percent Uniquely Attributable to Social Background; PRCS - Percent Uniquely Attributable to Family Process; C - Percent in Common; T - Total; A - Among; W - Within.

attributable to SB and PRCS to increase and the common portions to decrease at the higher grade levels.

For Expectations for Excellence we can conclude that PRCS plays a greater role than SB at both the individual (T and W) and aggregate (A) levels. However, at the aggregate (A) level the role of PRCS is much diminished while the common role of SB and PRCS is substantially augmented especially in the North and met South.

9.2 Variations in Attitude Towards Life by Family Background and Geographic Location for T, A and W Analyses

Figure 9.2, which presents the percent of variation in Attitude Towards Life accounted for by the SB and PRCS measures, shows that the A value exceed the T and W values by as much as: 2 to 4 in the North non-met; 1 3/4 to 5 in the North met; 1 1/2 to 5 in the South non-met and; 1 1/2 to 8 in the South met. At the twelfth grade for non-met (both North and South) the A value is less than at the two lower grade levels but this does not occur for met areas. Perhaps this difference may be attributable to a greater loss of dropouts in non-met than in met areas.

Table 9.2 compares the results of the unitized commonality analyses at the ninth grade for these different levels and groups. These results show that the unique value for PRCS is much greater than for SB at the individual level (T and W) for all groups. In fact, the unique PRCS value for the W analyses is usually larger and the common portion smaller than for the T analyses. At the aggregate (A) level, however, the unique value for PRCS is much smaller while the common portion is much larger than for the other levels. This latter result is least pronounced for the met South than for the other groups.

Figure 9.2. - Percent of Variation in Attitude Towards Life, Accounted for by Family Social Background and Process Measures for Total (T), Among (A), and With (W) Analyses by Geographic Location

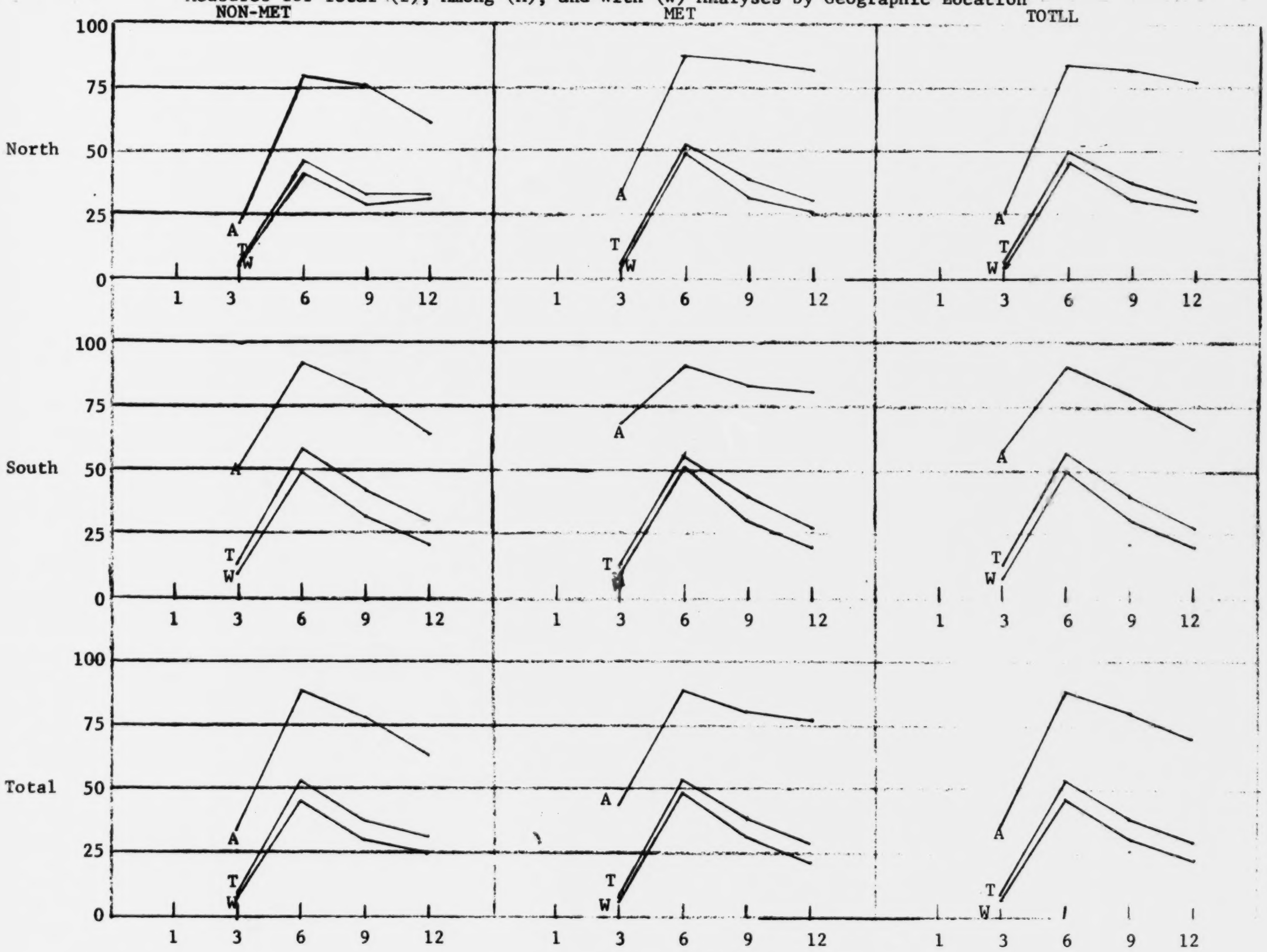

Table 9.2. - Unitized Commonality Analyses of Family Social Background and Process Measures With Attitude Towards Life for Total (T), Among (A) and Within (W) Differences at the Ninth Grade by Geographic Location

Region	Type of Analysis	NON-MET SB	NON-MET PRCS	NON-MET C	MET SB	MET PRCS	MET C	TOTAL SB	TOTAL PRCS	TOTAL C
	T	0	58	42	3	46	51	3	50	47
North	A	1	25	74	2	18	80	2	20	78
	W	0	66	34	0	60	40	0	62	38
	T	2	50	48	2	55	43	2	52	46
South	A	2	27	71	11	35	54	5	32	63
	W	0	68	32	1	73	26	1	71	28
	T	0	53	47	2	48	50	3	49	48
Total	A	1	26	73	3	21	76	2	24	74
	W	0	67	33	0	64	33	0	65	35

SB - Percent Uniquely Attributable to Social Background;
PRCS - Percent Uniquely Attributable to Family Process;
C - Percent in Common; T - Total; A - Among; W - Within

These same analyses at the other grade levels (see chapter 20) showed that the role of PRCS was much greater than SB* except that the unique percents of each tended to increase at the twelfth grade while the common portion declined somewhat, particularly in the non-met North and met South.

For Attitude Toward Life then we can conclude that PRCS plays a much greater role than SB at both the individual (T and W) and aggregate (A) levels. However, at the aggregate (A) level the role of PRCS is much diminished while the common portion is much increased especially in the North and non-met South.

9.3 Variations in Educational Plans and Desires by Family Background and Geographic Location for T, A and W Analyses

The percent of variation in Educational Plans and Desires accounted for by the SB and PRCS measures are given in Table 9.3. These figures show that the aggregate (A) values exceed those at the individual (T and W) level by as much as 1 1/3 to 4 in the non-met North; 1.6 to 5 in the non-met South and; 1.4 to 7 in the met South. In all areas except the non-met North, the values decline for all levels (T, A and W) at the twelfth grade. In the non-met North there is an actual increase from the ninth to the twelfth grade.

Table 9.3 compares unitized commonality analyses at the ninth grade for the different levels and groups. The results for Educational Plans are somewhat different than they were for the previous dependent variables of Expectations and Attitude Towards Life. For Educational Plans, the unique value for PRCS exceeds that for SB at the individual level (T and W) but not

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* except at the third grade.

Figure 9.3. - Percent of Variation in Educational Plans and Desires, Accounted for by Family Social Background and Process Measures for Total (T), Among (A), and Within (W) Analyses by Geographic Location

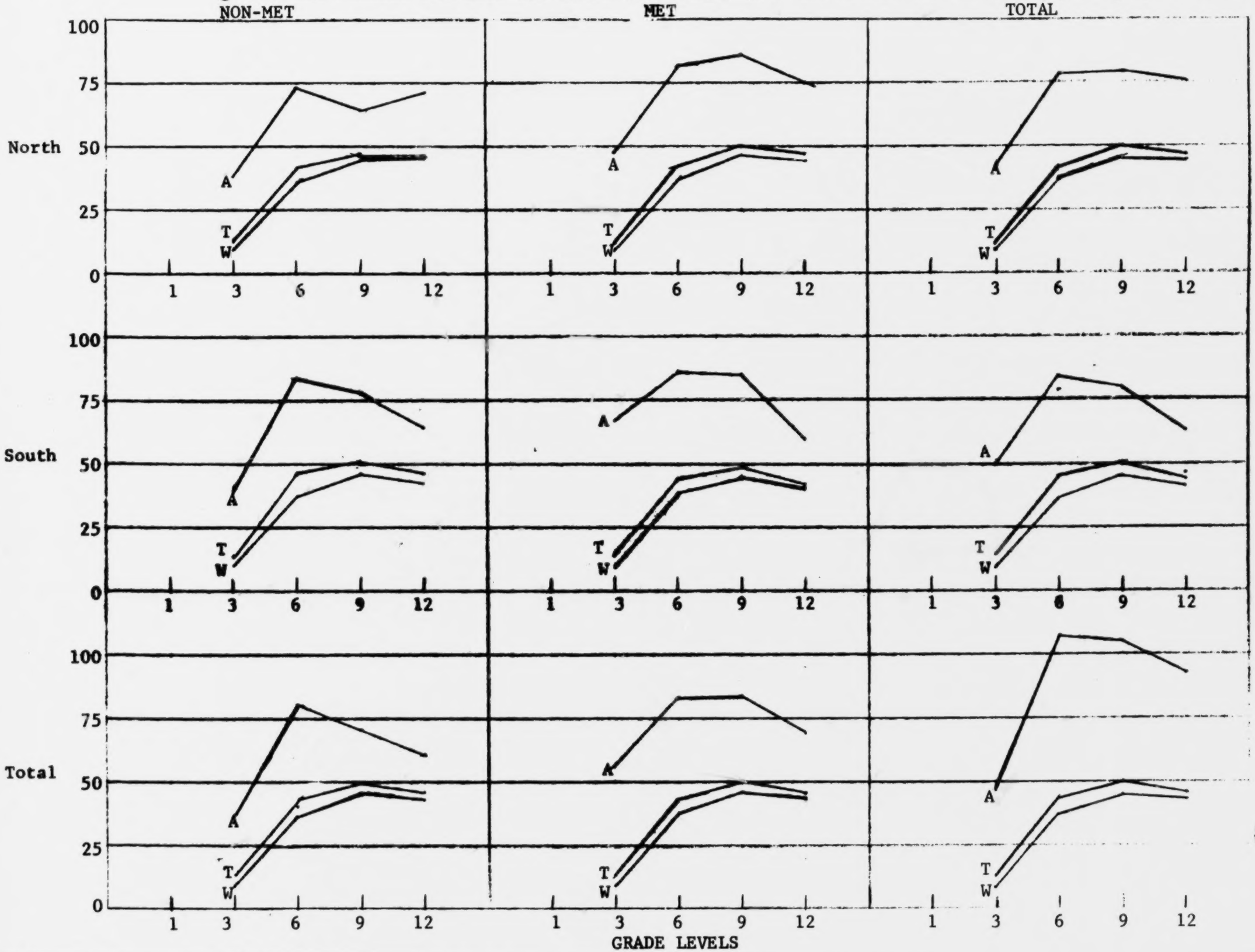

Table 9.3 - **Unitized Commonality Analyses of Family Social Background and Process Measures With Educational Plans and Desires for Total (T), Among (A) and Within (W) Differences at the Ninth Grade by Geographic Location**

Region	Type of Analysis	NON-MET SB	NON-MET PRCS	NON-MET C	MET SB	MET PRCS	MET C	TOTAL SB	TOTAL PRCS	TOTAL C
	T	8	45	47	10	39	51	10	40	50
North	A	16	31	53	24	9	67	24	13	63
	W	9	48	43	10	46	44	10	47	43
	T	16	38	46	10	39	51	14	38	48
South	A	28	15	57	19	9	72	28	12	60
	W	18	43	39	13	46	41	16	45	39
	T	12	41	47	10	40	50	12	40	48
Total	A	23	20	57	24	9	67	26	13	61
	W	13	46	41	11	46	43	11	47	42

as much so as for Expectations and Attitude Towards Life. At the aggregate level (A), however, a different trend emerges for three of the four groups. Only in the non-met North does the role of PRCS outweigh that of SB for all three levels. For the other three groups, the role of SB exceeds that of PRCS at the A level. We also note that the common portions are always larger at the aggregate (A) than at the individual (T and W) levels.

Results for the other grade levels (see Chapter 20) showed that these trends are even more pronounced in the higher and lower grade levels. That is to say, at the twelfth grade the extent to which SB exceeds PRCS at the A level is even greater than for the ninth grade. At the lower grades, however, the role of SB is smaller (for T, A and W) and PRCS is larger. At the A level in particular, the common portion is much larger at the lower grades.

We can conclude for Educational Plans and Desires that the relative roles of SB and PRCS are not even roughly similar at the individual and aggregate levels. At the individual level (T and W) the unique role for PRCS considerably exceeds that for SB while at the aggregate (A) or school level the role of SB exceeds that of PRCS except in the non-met North where the role of PRCS continues to exceed that of SB.*

9.4 Variations in Study Habits by Family Background and Geographic Location for T, A and W Analyses

Table 9.4 gives the percent of variation in Study Habits accounted for by the SB and PRCS measures. Inspection of these figures shows that

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* And at the lower grade levels where the PRCS variables are less well measured and Educational Plans is both less well measured and less well developed in the student's mind.

the values at the A level exceed those at the T and W level:by 1.6 to 5 times as much in the non-met areas (both North and South); by 1.6 to 6 times in the met South and; by 2 to 6 times as much in the met North. At the twelfth grade the characteristic decrease occurs for all groups at almost all levels of analysis (viz. T, A and W). The decrease is greatest, however for the A values in the non-met North.

Table 9.4 presents unitized commonality analyses for the different groups. Inspection of these figures shows that the unique role of PRCS always exceeds that of SB. However, the extent to which this occurs is always greater at the individual (T and W) than at the aggregate (A) level. In fact, at the A level the values for PRCS and SB are much smaller and the common portions much larger than at the individual level. This diminished role for PRCS and augmented common portion is particularly pronounced for the met areas (both North and South).

Results for the other grade levels (see Chapter 20) showed that a somewhat different trend exists at the higher and lower grade levels. Results at the sixth grade are similar to those at the ninth grade showing a slightly smaller role for SB and a somewhat larger role for PRCS. Results at the third grade are still somewhat similar to those at the ninth grade but have a slightly increased role for SB and a somewhat smaller role for PRCS with SB exceeding PRCS at the A level, except in the met North. The twelfth grade results differ for the different groups. In the non-met North SB exceeds PRCS at both the individual (T and W) and aggregate (A) levels whereas the reverse of this assertion (viz. PRCS exceeds SB) holds for the met North and South. In the non-met South PRCS exceeds SB at the individual level (T and W) while the reverse holds at the A level.

Figure 9.4. - Percent of Variation in Study Habits Accounted for by Family Social Background and Process Measures for Total (T), Among (A) and Within (W) Analyses by Geographic Location

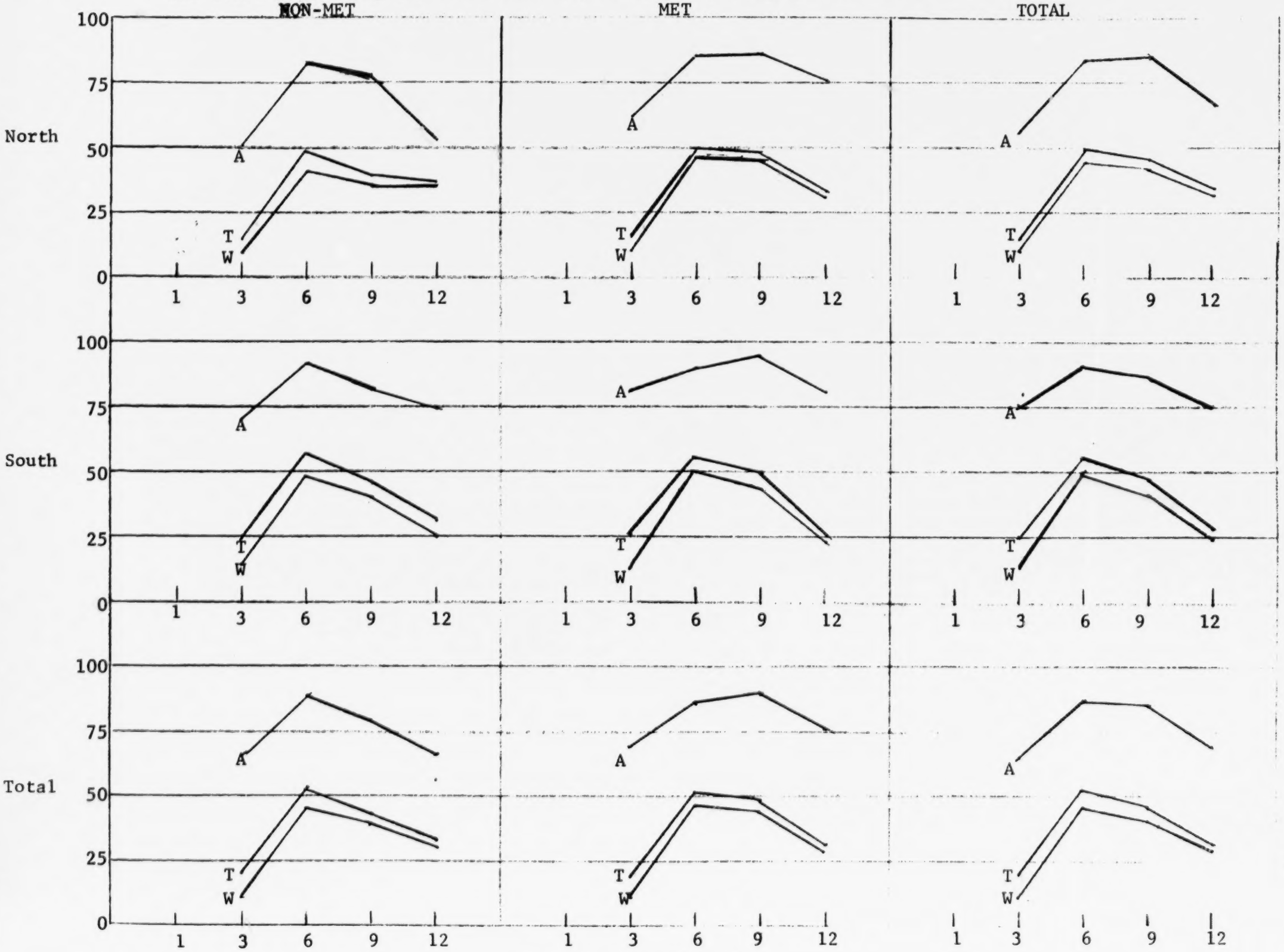

Table 9.4 - Unitized Commonality Analyses of Family Social Background and Process Measures With Study Habits for Total (T), Among (A) and Within (W) Differences at the Ninth Grade by Geographic Location

Region	Type of Analysis	NON-MET SB	NON-MET PRCS	NON-MET C	MET SB	MET PRCS	MET C	TOTAL SB	TOTAL PRCS	TOTAL C
	T	13	41	46	15	31	54	13	35	52
North	A	7	16	77	6	8	83	6	12	82
	W	12	45	43	15	36	49	15	38	47
	T	11	40	49	14	35	51	13	38	49
South	A	7	20	73	8	12	80	9	17	74
	W	11	47	42	16	41	43	14	44	42
	T	12	39	49	15	33	52	13	37	50
Total	A	7	19	26	9	10	81	9	15	76
	W	12	46	42	16	38	46	15	41	44

SB - Percent Uniquely Attributable to Social Background;
PRCS - Percent Uniquely Attributable to Family Process;
C - Percent in Common; T - Total; A - Among; W - Within

For Study Habits we can conclude that at the individual level (T and W) the role of PRCS outweighs that of SB while at the aggregate (A) level PRCS outweighs SB except in the non-met areas (both North and South) at the twelfth and third grades. At the A level, the common portion is greatly increased over the individual level (T and W), particularly in the met areas.

9.5 Variations in Achievement by Family Background and Geographic Location for T, A and W Analyses

Figure 9.5 gives the percent of variation in Achievement accounted for by the SB and PRCS measures. These figures show that the extent to which the aggregate (A) level values exceed those at the individual (T and W) level is more pronounced in the met areas (both North and South) than in the non-met areas. In the met areas the A values exceed the T and W values by 2 to 5.3 times as much whereas in the non-met areas the differences are only 1.6 to 3 times as much for A over T and W. The A values are usually lower in the non-met North than in the other groups particularly at the twelfth grade.

Table 9.5 presents unitized commonality analyses for Achievement at the ninth grade. These values show that differences exist in the relative roles of SB and PRCS by level of analysis (T, A and W) as well as by geographic grouping. At the T level the role of PRCS outweighs that of SB only in the non-met North. For the other groups SB is greater than PRCS in the South while they are more nearly equal in the met North.

Figure 9.5. - Percent of Variation in Achievement Accounted for by Family Social Background and Process Measures for Total (T), Among (A), and Within (W) Analyses by Geographic Location

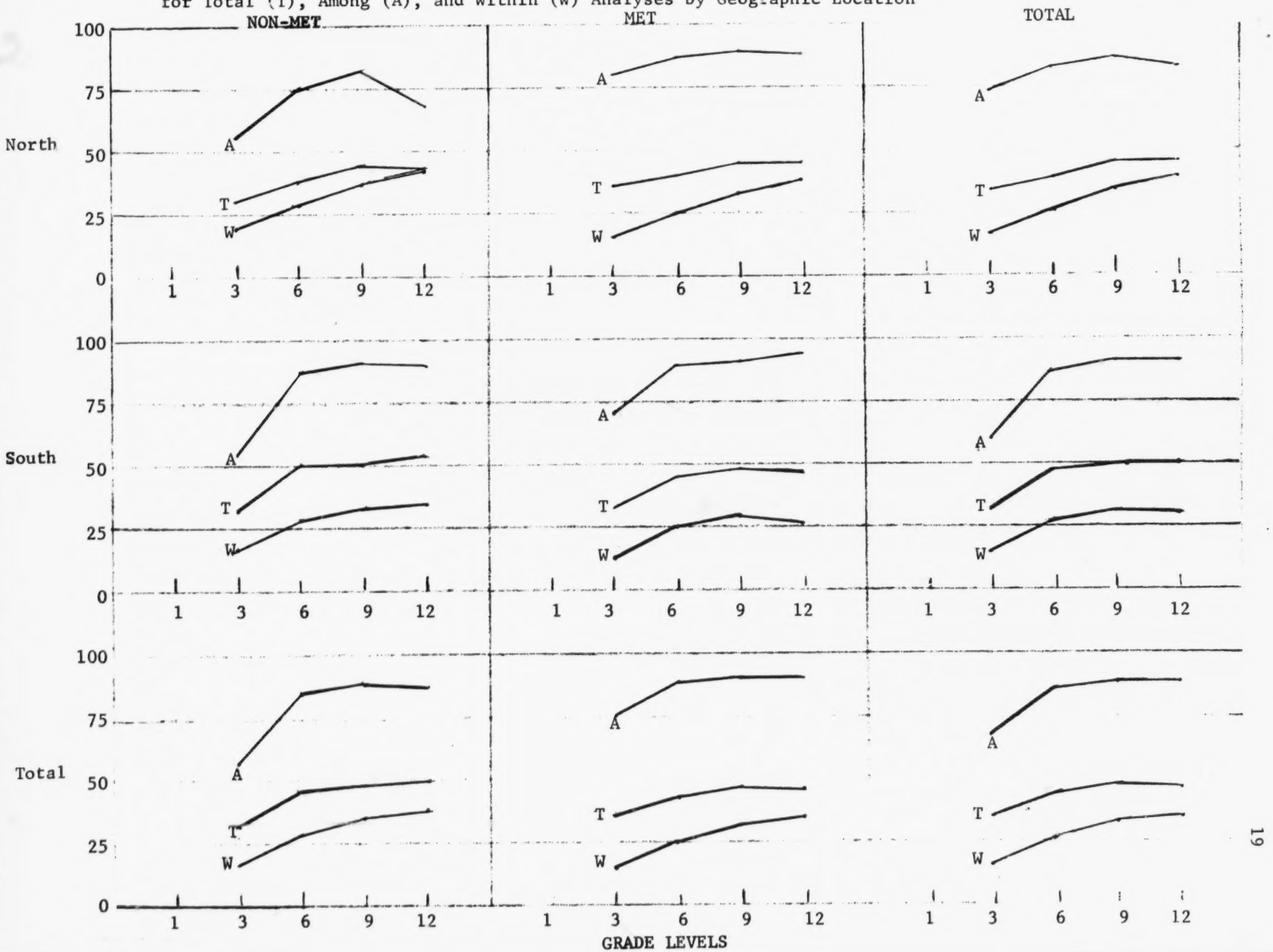

Table 9.5 - Unitized Commonality Analyses of Family Social Background and Process Measures With Achievement for Total (T), Among (A) and Within (W) Differences at the Ninth Grade by Geographic Location

Region	Type of Analysis	NON-MET SB	NON-MET PRCS	NON-MET C	MET SB	MET PRCS	MET C	TOTAL SB	TOTAL PRCS	TOTAL C
	T	18	36	46	24	24	52	22	29	49
North	A	41	10	49	19	1	80	24	3	73
	W	10	49	41	11	43	46	11	45	44
	T	35	19	46	38	21	41	36	20	44
South	A	35	3	62	40	1	59	37	2	61
	W	12	45	43	12	48	40	12	46	42
	T	29	25	46	28	23	49	29	23	48
Total	A	33	6	61	25	1	74	28	3	69
	W	11	46	43	11	44	45	12	46	42

SB - Percent Uniquely Attributable to Social Background;
PRCS - Percent Uniquely Attributable to Family Process;
C - Percent in Common; T - Total; A - Among; W - Within

For the W analysis, the role of PRCS consistently outweighs that of SB for all the groups. At the A level, however, still another trend emerges and that is for the role of SB to be much greater than that of PRCS for all groups and for the common portion to be much larger, particularly in the South and the met North.

Results for the other grade levels showed there were definite grade level differences that were unique to some of the groups. At the third grade for all groups and levels of analysis (T, A and W) the role of SB exceeded that of PRCS. At the sixth grade, level of analysis differences emerged with SB exceeding PRCS at the T and A levels but not at the W level. By the ninth grade both level of analysis differences as well as subgroup differences emerged which become even more pronounced at the twelfth grade. At the ninth grade, at the W level, PRCS exceeded SB for all groups while at the T and A levels SB exceeded or was equal to PRCS except in the non-met North (at the T level). At the twelfth grade PRCS continues to exceed SB at the W level for all groups. Also at the twelfth grade T level, PRCS exceeds SB in the North whereas the reverse is true in the South. For the twelfth grade A level, SB is much larger than PRCS except in the non-met North (where a reversal occurs). In addition the common portion is always larger at the A level than for T and W.

For Achievement we can conclude that the relative roles played by SB and PRCS for T, A and W differ by grade level and geographic location. The greatest differences among the individual and aggregate levels exist at the ninth and twelfth grades.

9.6 Summary and Discussion

This chapter showed the differences in the relative roles that Family Social Background and Process variables play in the development of achievement and motivation at the individual and at the aggregate (or school) level in different geographic locales.

The dependent variables were the four motivational measures of Expectations for Excellence, Attitude Towards Life, Educational Plans and Desires and, Study Habits plus the fifth measure, Achievement. The sets of regressor variables (those against which the dependent variables were regressed) were the three Family Social Background (SB) and four Process (PRCS) measures, a set of seven in all. Their composition and meaning is described in Chapter 6. The concepts of differences among students, among schools and among students within schools were developed in Chapter 6 in conjunction with analyses from a national viewpoint. The analyses in this chapter focused on geographic differences.

The percent of variation in each dependent variable that was associated with the schools students attend were presented in Chapter 8. These analyses showed that the percentage values were higher in the South than in the North for all five variables at almost all of the grade levels. Higher values were also observed for the four motivational measures in non-metropolitan than in metropolitan areas. These same percentage values for the Social Background (SB) measures of Socio-Economic Status, Family Structure and Stability and, Racial-Ethnic Group Membership were found to be much larger in the South than in the North, particularly for Racial-Ethnic Group Membership. These figures showed that in all four of the geographic groups (non-met North, met North, non-met South, met South) there was a pronounced

tendency for students of similar SB to go to school with one another. This aggregation was least pronounced in the non-met North followed in ascending order by the met North, met South and non-met South. Aggregation on the basis of SB was also more pronounced at the lower than at the higher grade levels which suggests a "feeder school" effect schools at the lower grade levels feed into a smaller number of junior and senior high schools which has the effect of making the student bodies more heterogeneous in their SB.

The percent of variation in each dependent variable explained or accounted for by the combined SB and PRCS sets for each level of analysis (T for Total, A for Among and W for Within) were compared for the different geographic groups. Comparisons were also made of the relative roles played by the SB and PRCS sets for the different levels of analysis (T, A and W) within each group using unitized commonality analyses (i.e., the analyses are made comparable by dividing the commonality coefficients by their squared multiple correlation so that they sum to 100). The correlations at the aggregate (A) level were almost always greater than those at the individual (T and W) level. The extent to which the values at the A level exceeded those at the T and W level ranged from 1 1/2 to 6 depending upon the dependent variable and the grade level. A brief summary of the commonality analyses for each dependent variable is given below.

Expectations for Excellence

For Expectations for Excellence the conclusions obtained from the sub-group commonality analyses are quite similar to those obtained in Chapter 6. That is, for Expectations we can conclude that PRCS plays a greater role than

SB at both the individual (T and W) and aggregate (A) levels. At the aggregate level, however, the role of PRCS is much diminished while the common role of SB and PRCS is substantially augmented especially in the North and met South.

Attitude Towards Life

The conclusions that can be made for Attitude Towards Life are very similar to those obtained for Expectations in that PRCS plays a much greater role than SB at both the individual (T and W) and aggregate (A) levels. Also, at the aggregate level the role of PRCS is much diminished while the common portion is much increased, especially in the North and met South.

Educational Plans and Desires

For Educational Plans and Desires the relative roles of SB and PRCS were not even roughly similar at the individual and aggregate levels. At the individual level (T and W) the unique role for PRCS considerably exceeded that for SB while at the aggregate (A) or school level the role of SB exceeded that of PRCS except in the non-met North where the role of PRCS continued to exceed that of SB.

Study Habits

The unitized commonality analyses for Study Habits led to the conclusions that at the individual level (T and W) the role of PRCS exceeded that of SB while at the aggregate (A) level PRCS exceeded SB except in the non-met areas (both North and South) at the twelfth and third grades. Also at the A level the common portion was greatly increased over the individual level (T and W) particularly in the met areas.

Achievement

The commonality analyses for Achievement showed that there were different relative roles played by SB and PRCS at each of the three levels of analyses (T, A and W) as well as by geographic location, particularly at the higher grade levels. At the third grade SB exceeded PRCS for all groups and levels of analysis. At the sixth grade level of analysis differences emerge with SB exceeding PRCS at the T and A levels but not at the W level. By the ninth grade both level of analysis differences as well as subgroup differences emerged which became even more pronounced at the twelfth grade. At the ninth grade, at the W level, PRCS exceeded SB for all groups while at the T and A levels SB was equal to or exceeded PRCS (except in the non-met North, at the T level). At the twelfth grade PRCS continued to exceed SB at the W level for all groups. Also, at the twelfth grade T level, PRCS exceeded SB in the North whereas the reverse was true in the South. For the twelfth grade A level, SB was much larger than PRCS except in the non-met North where a reversal occurred. In addition, the common portion was always larger at the A level than at the other levels.

In summary, we have seen that the relative roles of Family Social Background (SB) and Process (PRCS) variables can be considered roughly similar since the unique role of PRCS greatly exceeds that of SB for both Expectations and Attitude Towards Life. This same assertion holds to a lesser extent for Study Habits since there are met-non-met differences at the third and twelfth grades. For Educational Plans and Achievement, however, the relative roles of SB and PRCS are not even roughly similar

at the aggregate (A) and individual (T and W) level. Since the role of SB at both the T and A levels for these variables is usually most pronounced where social and economic stratification on the basis of race and ethnicity is greatest (viz. the South and to some extent also, the met North) two prior lines of reasoning are reinforced. The one idea from Chapter 6 is that those variables that have a strong relationship with SB variables at the individual level (T) will be further strengthened or enhanced when students are allocated into schools on the basis of their SB and other relationships that are not as strong at the T level will be dampened by this assignment rule. The second line of reasoning is suggested by the previous two chapters where it was noted that the role of SB in Educational Plans and Achievement is greater in the South and met North where stratification on the basis of race and ethnicity is greatest but so too is the possible effect of the school that is independent of family background (SB and PRCS). Taken together with the results in this chapter, these considerations suggest that the aggregate effect of allocating students with similar SB into the same schools is to make it more difficult for the schools to overcome the cumulative effect of SB through whatever means they currently have at their disposal.